

U.S. Patent Application Serial No. 09/901,572
Amendment filed November 15, 2004
Reply to OA dated July 13, 2004

AMENDMENTS TO THE CLAIMS:

Please amend claims 5, 9, 10, and 12-16, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1- 3 (Canceled).

Claim 4 (Previously Presented): A DNA molecule, whose sequence comprises:

a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell,

wherein said prokaryotic cell is Mycoplasma.

Claim 5 (Currently amended): A DNA molecule, whose sequence comprises:

a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell,

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wherein said ~~DNA molecule derived from a~~ prokaryotic cell is a ~~DNA derived from~~ Mycoplasma, and said portion of the genome includes having the DNA sequence according to SEQ ID. NO. 1 or SEQ ID NO. 2.

Claims 6-8 (Canceled).

Claim 9 (Currently amended): A fused DNA molecule, wherein a DNA encoding a signal sequence has been ligated to the N-terminal end of a DNA molecule,

wherein the sequence of said DNA molecule comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during expression of the DNA molecule in a eukaryotic cell

so that the fused DNA molecule may be expressed as a fusion protein,

wherein said ~~DNA molecule~~ portion of the genome of ~~derived from~~ a prokaryotic cell has a DNA sequence described in SEQ ID NO: 1 or 2 ~~derived from Mycoplasma~~, and said signal sequence is a signal sequence from the gB of Marek's disease virus or a signal sequence from the gG of Rabies virus.

Claim 10 (Currently amended): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is *Mycoplasma*, in which at least one DNA region encoding an NXB site, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein.

Claim 11 (Previously Presented): The recombinant virus according to claim 10, wherein the alteration that prevents N-glycosylation is at least one of the following:

(1) the alteration of the DNA sequence encoding asparagine (N) to a DNA sequence encoding an amino acid other than asparagine;

(2) the alteration of the DNA sequence encoding any amino acid (X) other than proline to a DNA sequence encoding proline; and

(3) the alteration of the DNA sequence encoding serine or threonine (B) to a DNA sequence encoding an amino acid other than serine or threonine.

Claim 12 (Currently amended): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein,

wherein said ~~portion of the genome of a prokaryotic cell is a DNA molecule derived from Mycoplasma, and said portion of the genome includes~~ having the DNA sequence according to SEQ ID. NO. 1 or SEQ ID NO. 2.

Claim 13 (Currently amended): A recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein.

Claim 14 (Currently amended): A recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein,

wherein said signal sequence is a signal sequence from the gB gene of Marek's disease virus or a signal sequence from the gG gene of Rabies virus.

Claim 15 (Currently amended): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a poxvirus or a herpesvirus.

Claim 16 (Currently amended): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell, wherein said prokaryotic cell is Mycoplasma, in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-

terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a virus that infects avians.

Claim 17 (Previously Presented): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs

at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is an avipoxvirus.

Claim 18 (Previously Presented): A recombinant virus that has integrated therein

(1) a DNA molecule whose sequence comprises a portion of the genome of a prokaryotic cell in which at least one DNA region encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs during the expression of the DNA molecule in a eukaryotic cell, or

(2) a fused DNA molecule in which a DNA encoding a signal sequence is ligated to the N-terminal end of said DNA molecule so that it may be expressed as a fusion protein, or

a recombinant virus that has integrated therein a fused DNA molecule, wherein a first DNA encoding a signal sequence that has been altered so that no N-glycosylation occurs in the protein encoded by said first DNA during the expression in a eukaryotic cell has been ligated to the N-terminal end of a second DNA molecule comprising a portion of the genome of a prokaryotic cell in which at least one DNA regions encoding NXB, wherein N is asparagine, X is any amino acid other than proline, and B is serine or threonine, has been altered so that no N-glycosylation occurs at said NXB site during the expression of said fused DNA molecule in a eukaryotic cell, so that it may be expressed as a fusion protein, wherein said virus is a Marek's disease virus type I, type II, or type III.

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Claim 19 (Canceled).

Claim 20 (Original): A vaccine comprising the recombinant virus according to claim 10
or 13.